REMARKS

Applicants have studied the Office Action dated April 19, 2007. Claims 1-31 are pending. Reconsideration and allowance of the pending claims in view of the above amendments and the following remarks are respectfully requested.

In the Office Action, the Examiner:

(6)	Objected to FIG. 4 of the drawings;
(7)	Objected to claims 10, 11, 15, 25, 26, and 30 for informalities;
(8-9)	Rejected claims 16-30 as directed to non-statutory subject matter;
(10-11)	Rejected claims 14,15, 29, and 30 under 35 U.S.C. 112, ¶ 2, as being indefinite;
(12-13)	Rejected claims 1-3, 5-7 and 9-15 under 35 U.S.C. § 102(b) as being anticipated by Tip (Tip et al., Class Hierarchy Specialization);
(14-15)	Rejected claims 16-18, 20-22, 24-30, and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tip (Tip et al., Class Hierarchy Specialization);
(16)	Rejected claims 4 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tip (Tip et al., Class Hierarchy Specialization) in view of Pauw (Pauw et al., Visualizing the Execution of Java Programs); and
(17)	Rejected claims 8 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tip (Tip et al., Class Hierarchy Specialization) in view of Sweeney (Sweeney et al., Extracting Library-Based Object-Oriented Applications).

(6) Objection To FIG. 4 Of The Drawings

The Applicants wish to thank Examiner Wei for pointing out the informality with FIG. 4. As suggested by the Examiner, in FIG. 4, line 7, has been changed from "T' is equal to T, or T is a subtype of T" to - -T' is equal to T, or T' is a subtype of T- -. No new matter has been added. Accordingly, the Applicants respectfully submit that the Examiner's objection to FIG. 4 has been overcome and should be withdrawn.

(7) Objection To Claims For Informalities

As noted above, the Examiner objected to claims 10, 11, 15, 25, 26, and 30 for informalities. The Applicants wish to thank Examiner Wei for providing suggestions on correcting these informalities. Claims 10, 11, 15, 25, 26, and 30 have been carefully amended. Accordingly, the Applicants respectfully submit that the Examiner's objection to claims claims 10, 11, 15, 25, 26, and 30 has been overcome and should be withdrawn.

(8-9) Rejection Of Claims 16-30 As Directed To Non-Statutory Subject Matter

As noted above, the Examiner rejected claims 16-30 as directed to non-statutory subject matter. The Applicants wish to thank Examiner Wei for providing suggestions on overcoming this rejection. Specifically claim 16-30 have been carefully amended to recite "computer readable storage medium" as suggested by the Examiner. Accordingly, the Applicants respectfully submit that the Examiner's rejection to claims claims 16-30 has been overcome and should be withdrawn.

(10-11) Rejection Of Claims Under 35 U.S.C. 112, ¶ 2, As Being Indefinite

As noted above, the Examiner rejected claims 14,15, 29, and 30 under 35 U.S.C. 112, ¶ 2, as being indefinite. The Applicants wish to thank Examiner Wei for providing suggestions in several instances on overcoming this rejection. Claims 14,15,

29, and 30 have been carefully amended. Accordingly, the Applicants respectfully submit that the Examiner's rejection to claims claims 14,15, 29, and 30 has been overcome and should be withdrawn.

(12-13) Rejection Under 35 U.S.C. § 102(B) As Being Anticipated By Tip

As noted above, the Examiner rejected claims 1-3, 5-7 and 9-15 under 35 U.S.C. § 102(b) as being anticipated by Tip (Tip et al., Class Hierarchy Specialization). Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Amended independent claims 1, 16, and 31 recite, *inter alia*:

> [...] automatic replacement of object classes, comprising:
> performing static analysis on a program containing a plurality of objects in order to determine constraints on the transformations that can be applied and to detect unused functionality in one or more of the objects to be replaced;
> analyzing the plurality of objects to detect usage patterns of functionality in the one or more objects replaced;
> analyzing at least one execution of the program to collect profile information for the one or more objects; and
> generating customized classes based upon the static analysis and the usage patterns detected and the profile information which has been collected.

Support for this amendment is found in the specification as originally filed especially starting at page 11, paragraphs [0053] though page 38, paragraph [0214]. No new matter has been added. The present invention provides a method, system and a computer program product to examine applications that are using certain library classes such as collections of hash tables. Next, the present invention observes the fact that those library classes are used in specific ways. For example, there could be hash table of objects that very often remains small or stays empty or one could detect situations where collections are used in specific ways such as very often storing elements into them but very infrequently retrieving elements from there. For these cases, the present invention creates specialized custom versions of these collections that are optimized for the use in a specific application. This optimization is accomplished using a variety of different sources of information including static information, obtained by static analysis and also profile information that we get from executing those programs on given inputs.

The Examiner cites Tip et al., Class Hiearchy Specialization. As an initial matter, it is important to note that Frank Tip is one of the co-inventors on the present application. Accordingly, the inventor is very familiar with his own previous work. Specifically, Tip et al., Class Hiearchy Specialization is silent on elements of amended independent claims 1, 16, and 31 of the "*analyzing at least one execution of the program to collect profile information for the one or more objects; and generating customized classes based upon the static analysis and the usage patterns detected and the profile information which has been collected.*" Accordingly, independent claims 1, 16, and 31 as amended of the present invention distinguish over Tip et al., Class Hierarchy Specialization for at least this reason. The Applicants respectfully submitted that the Examiner's rejection under 35 U.S.C. § 102(b) has been overcome.

Independent claims 1, 16, and 31 have been amended to distinguish over Tip et al., Class Hiearchy Specialization. Claims 2-3, 5-7 and 9-15 depend from claim 1, since dependent claims contain all the limitations of the independent claims, claims 2-3, 5-7 and 9-15 distinguish over Tip et al., Class Hierarchy Specialization, as well and the Examiner rejection should respectfully be withdrawn.

(14-17) Rejection Under 35 U.S.C. §103(A) Tip In View Of Pauw or Sweeney

As noted above, the Examiner rejected claims 16-18, 20-22, 24-30, and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tip (Tip et al., Class Hierarchy Specialization). Further, the Examiner rejected claims 4 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tip (Tip et al., Class Hierarchy Specialization) in view of Pauw (Pauw et al., Visualizing the Execution of Java Programs). Moreover, the Examiner rejected claims 8 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tip (Tip et al., Class Hierarchy Specialization) in view of Sweeney (Sweeney e al., Extracting Libray Object-Oriented Applications). For reasons stated above in the section entitled

"Rejection under 35 U.S.C. §102(b) Tip", Tip (Tip et al., Class Hierarchy Specialization) taken alone taken alone and/or in view of Pauw and/or Sweeney are silent on the elements of amended independent claims 1, 16, and 31 of the "*analyzing at least one execution of the program to collect profile information for the one or more objects;* and *generating customized classes based upon the static analysis and the usage patterns detected and the profile information which has been collected.*" Accordingly, independent claims 1, 16, and 31 as amended of the present invention distinguish over Tip et al., Class Hierarchy Specialization taken alone and/or in view of Pauw and/or Sweeney for at least this reason. The Applicants respectfully submitted that the Examiner's rejection under 35 U.S.C. § 103(a) has been overcome. Independent claims 1, 16, and 31 have been amended to distinguish over Tip et al., Class Hiearch Specialization taken alone and/or in view of Pauw and/or Sweeney for at least this reason. All the remaining claims ultimately depend on amended independent claims 1, 16, and 31 since dependent claims contain all the limitations of the independent claims, all the remaining claims distinguish over Tip et al., Class Hierarchy Specialization taken alone and/or in view of Pauw and/or Sweeney for at least this reason, as well and the Examiner rejection should respectfully be withdrawn.

CONCLUSION

The prior art made of record and not relied upon was reviewed and Applicants believe that such prior art is not pertinent to Applicants' disclosure.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Applicants acknowledge the continuing duty of candor and good faith to disclose information known to be material to the examination of this application. In accordance with 37 CFR §1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment are limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is knowingly surrendered and everything else is unforseeable at the time of this amendment by the Applicants and their attorneys.

The Commissioner is hereby authorized to change any fees that may be required or credit any overpayment to Deposit Account 50-0510. In view of the preceding discussion, it is submitted that the claims are in condition for allowance. Reconsideration and re-examination is requested.

PLEASE CALL the undersigned if the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, or that in any way it would help expedite the prosecution of the patent application.

Respectfully submitted.

Date: July 16, 2007   By: /Jon Gibbons/
                                      Jon Gibbons
                                      (Reg. No.37,333)

Attorney for Applicant

FLEIT KAIN GIBBONS
GUTMAN BONGINI & BIANCO P.L.
One Boca Commerce Center
551 N.W. 77th Street
 Suite 111, Boca Raton, Florida 33487
Telephone: (561) 989-9811
Facsimile: (561) 989-9812
www.FocusOnIP.com